What is claimed is:

1   1.   A computer program product for automated e-business services, the computer program

2   product embodied on one or more computer-readable media of a first computing system and

3   comprising:

4   computer-readable program code means for reading a specification of an e-business

5   service; and

6   computer-readable program code means for processing the specification to carry out the

7   e-business service, further comprising:

8   computer-readable program code means for receiving one or more input

9   documents for the e-business service; and

10   computer-readable program code means for performing one or more of: (1)

11   transforming the input documents into other documents, according to transformation information

12   that may be provided in the specification, and (2) operating upon the input documents and/or the

13   other documents to create one or more new documents, according to operating actions that may

14   be provided in the specification.

1   2.   The computer program product according to Claim 1, further comprising computer-

2   readable program code means for forwarding the other documents and/or the new documents to a

3   computing system other than the first computing system.

1   3.   The computer program product according to Claim 1, wherein the specification and the

2   input documents are encoded in a structured markup language.

1   4.   The computer program product according to Claim 1, wherein the other documents and

2   the new documents are encoded in a structured markup language.

1   5.   The computer program product according to Claim 3 or Claim 4, wherein the structured

2   markup language is a language known as "the Extensible Markup Language (XML)" or a

3   derivative thereof.

1   6.   The computer program product according to Claim 1, wherein the computer-readable

2   program code means for operating upon the input documents and/or the other documents further

3   comprises:

4   computer-readable program code means for invoking one or more software-implemented

5   processes; and

6   computer-readable program code means for coordinating results of the invocations.

1   7.   The computer program product according to Claim 6, further comprising computer-

2   readable program code means for repetitively executing the computer-readable program code

3   means for processing, until reaching a final result of the e-business service, wherein the other

4   documents, the new documents, and/or the coordinated results of the invocations now function as

5   the input documents.

1   8.   A system for automated e-business services, comprising:

2   means for reading a specification of an e-business service; and

3   means for processing the specification to carry out the e-business service, further

4   comprising:

5   means for receiving one or more input documents for the e-business service; and

6   means for performing one or more of: (1) transforming the input documents into

7   other documents, according to transformation information that may be provided in the

8   specification, and (2) operating upon the input documents and/or the other documents to create

9   one or more new documents, according to operating actions that may be provided in the

10   specification.

1   9.   The system according to Claim 8, further comprising means for forwarding the other

2   documents and/or the new documents to a computing system other than the first computing

3   system.

1   10.   The system according to Claim 8, wherein the specification and the input documents are

2   encoded in a structured markup language.

1   11.   The system according to Claim 8, wherein the other documents and the new documents

2   are encoded in a structured markup language.

1   12.   The system according to Claim 10 or Claim 11, wherein the structured markup language is

2   a language known as "the Extensible Markup Language (XML)" or a derivative thereof.

1   13.   The system according to Claim 8, wherein the means for operating upon the input

2   documents and/or the other documents further comprises:

3   means for invoking one or more software-implemented processes; and

4   means for coordinating results of the invocations.

1   14.   The system according to Claim 13, further comprising means for repetitively executing the

2   means for processing, until reaching a final result of the e-business service, wherein the other

3   documents, the new documents, and/or the coordinated results of the invocations now function as

4   the input documents.

1   15.   A method performed by one or more computers for automated e-business services,

2   comprising steps of:

3   reading a specification of an e-business service; and

4   processing the specification to carry out the e-business service, further comprising steps

5   of:

6   receiving one or more input documents for the e-business service; and

7   performing one or more of: (1) transforming the input documents into other

8   documents, according to transformation information that may be provided in the specification, and

9   (2) operating upon the input documents and/or the other documents to create one or more new

10   documents, according to operating actions that may be provided in the specification.

1   16.   The method according to Claim 15, further comprising the step of forwarding the other

2   documents and/or the new documents to a computing system other than the first computing

3   system.

1   17.   The method according to Claim 15, wherein the specification and the input documents are

2   encoded in a structured markup language.

1   18.   The method according to Claim 15, wherein the other documents and the new documents

2   are encoded in a structured markup language.

1   19.   The method according to Claim 17 or Claim 18, wherein the structured markup language

2   is a language known as "the Extensible Markup Language (XML)" or a derivative thereof.

1   20.   The method according to Claim 15, wherein the step of operating upon the input

2   documents and/or the other documents further comprises steps of:

3   invoking one or more software-implemented processes; and

4   coordinating results of the invocations.

1   21.   The method according to Claim 20, further comprising the step of repetitively executing

2   the processing step, until reaching a final result of the e-business service, wherein the other

3   documents, the new documents, and/or the coordinated results of the invocations now function as

4   the input documents.

1   22.   A method of conducting business by using automated e-business services, comprising

2   steps of:

3   reading a specification of an e-business service; and

4   processing the specification to carry out the e-business service, further comprising steps

5   of:

6   receiving one or more input documents for the e-business service; and

7   performing one or more of: (1) transforming the input documents into other

8   documents, according to transformation information that may be provided in the specification, and

9   (2) operating upon the input documents and/or the other documents to create one or more new

10   documents, according to operating actions that may be provided in the specification.

1   23.   A method of defining e-business process and data interactions, further comprising steps of:

2   defining data inputs to be used by an e-business service;

3   defining interactions to be carried out when operating the e-business service;

4   specifying details of the data inputs in a structured markup language syntax;

5   specifying details of the interactions in the structured markup language syntax; and

6   creating one or more e-business service definition documents wherein the specified details

7   of the data inputs and the specified details of the interactions are recorded.

1   24.   The method according to Claim 23, wherein the structured markup language is a language

2   known as "the Extensible Markup Language (XML)" or a derivative thereof.

1   25.   A method of defining process and data interactions for an application described by a finite

2   state machine, further comprising steps of:

3   defining data inputs to be used by the application;

4   defining interactions to be carried out when operating the application;

5   specifying details of the data inputs in a structured markup language syntax;

6   specifying details of the interactions in the structured markup language syntax; and

7   creating one or more application definition documents wherein the specified details of the

8   data inputs and the specified details of the interactions are recorded.

1   26.   The method according to Claim 25, wherein the structured markup language is a language

2   known as "the Extensible Markup Language (XML)" or a derivative thereof.

1   27.   A method performed by one or more computers for automating data and process

2   interactions between a first application and one or more other applications, comprising steps of:

3   providing one or more application definition documents encoded in a structured markup

4   language, wherein the application definition documents specify the interactions and one or more

5   data inputs to be used in the interactions, and wherein details of the specified interactions and data

6   inputs are specified in the structured markup language; and

7   processing the application definition documents to carry out the data and process

8   interactions.

1   28.   The method according to Claim 27, wherein the step of processing the application

2   definition documents further comprises steps of:

3   receiving one or more input documents to be used by the interactions; and

4   performing one or more of: (1) transforming the input documents into other documents,

5   according to transformation information that may be provided in the application definition

6   documents, and (2) operating upon the input documents and/or the other documents to create one

7   or more new documents, according to operating actions that may be provided in the application

8   definition documents.

1   29.   The method according to Claim 28, further comprising the step of forwarding the other

2   documents and/or the new documents to from one or the computers to another of the computers.

1   30.   The method according to Claim 27, wherein the structured markup language is a language

2   known as "the Extensible Markup Language (XML)" or a derivative thereof.